

Esters of Long-chain, Hydroxy Aliphatic Acids

The esters listed in Table I were prepared by the azeotropic method previously reported.¹ 9,10-Dihydroxyoctadecyl 12-hydroxystearate was prepared from 9,10-dihydroxyoctadecanol,² m. p. 84.5–86°, and 12-hydroxystearic acid, m. p. 80–81°, prepared from hydrogenated castor oil. 9,10-Dihydroxyoctadecyl 9,10,12-trihydroxystearate was prepared from 9,10-dihydroxyoctadecanol and 9,10,12-trihydroxystearic acid,³ m. p. 110°. Tetrahydrofurfuryl 9,10-dihydroxystearate was prepared from tetrahydrofurfuryl alcohol, b. p. 115.7° (100 mm.),

and 9,10-dihydroxystearic acid,⁴ m. p. 95°. The crude esters were obtained in quantitative yields and were hard, waxy solids. The purified products were white, odorless solids with the same solubility characteristics as the esters previously reported.^{1,5}

(4) Swern, Billen, Findley and Scanlan, *ibid.*, **67**, 1786 (1945).

(5) Swern, Jordan and Knight, *THIS JOURNAL*, **68**, 1673 (1946).

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(1) Swern and Jordan, *THIS JOURNAL*, **67**, 902 (1945).

(2) Swern, Findley and Scanlan, *ibid.*, **66**, 1925 (1944).

(3) Scanlan and Swern, *ibid.*, **62**, 2309 (1940).

TABLE I

ESTERS OF LONG-CHAIN, HYDROXY ALIPHATIC ACIDS

Ester	Formula	Yield, ^a %	M. p., °C.	Saponification no.		Carbon ^b		Hydrogen ^b	
				Calcd.	Found	Calcd.	Found	Calcd.	Found
9,10-Dihydroxyoctadecyl 12-hydroxystearate	C ₃₆ H ₇₂ O ₅	60	86–87	95.9	95.0	73.9	73.6	12.4	11.7
9,10-Dihydroxyoctadecyl 9,10,12-trihydroxystearate	C ₄₆ H ₇₂ O ₇	40	103.5–104.2	90.9	90.2	70.1	70.5	11.8	11.7
Tetrahydrofurfuryl 9,10-dihydroxystearate	C ₂₃ H ₄₄ O ₆	30	59.8–60.6	140.1	142.7	69.0	68.8	11.1	11.3

^a Purified products after at least three crystallizations from 95% ethanol. ^b Analyses were made by Mary Jane Welsh of this Laboratory.